



**[4910-13]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0005; Directorate Identifier 2010-SW-091-AD;  
Amendment 39-16914; AD 2012-01-03]**

**RIN 2120-AA64**

**Airworthiness Directives; Eurocopter France Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting an airworthiness directive (AD) for the Eurocopter France (ECF) Model AS332L2 helicopter and superseding an AD for the Model EC225LP helicopter. This AD is prompted by the manufacturer issuing additional corrective action to prevent failure of the main gearbox (MGB) due to the degradation of the epicyclic module of the MGB and expands the applicability to include the ECF Model AS332L2 helicopter because an investigation showed a failure within the epicyclic reduction gear module resulted in the rupture of the MGB case and separation of the main rotor head of a model AS332L2 helicopter in 2009. These actions are intended to prevent failure of the MGB and subsequent loss of control of the helicopter.

**DATES:** This AD becomes effective [insert date 15 days after date of publication in the FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of

certain documents listed in this AD as of [insert date 15 days after date of publication in the FEDERAL REGISTER].

We must receive comments on this AD by [insert date 60 days after date of publication in the FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**EXAMINING THE AD DOCKET:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800- 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this AD, contact American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, Texas 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at <http://www.eurocopter.com/techpub>.

You may review copies of the referenced service information at the FAA, Office

of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Rao Edupuganti, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-4389; fax: (817) 222-5961, e-mail [rao.edupaganti@faa.gov](mailto:rao.edupaganti@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments prior to it becoming effective. However, we invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that resulted from adopting this AD. The most helpful comments reference a specific portion of the AD, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit them only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking during the comment period. We will consider all the comments we receive and may conduct additional rulemaking based on those comments.

**Discussion**

We issued Emergency AD (EAD) 2009-09-51 on April 17, 2009, to all known owners and operators of the Eurocopter Model EC225LP helicopter, and published that EAD as Amendment 39-16101 (74 FR 65679, December 11, 2009) to require determining whether or not the “CHIP” detector light on the instrument panel had previously illuminated. If the “CHIP” detector light had illuminated because of a metal particle on the chip detector of the module, or if you could not determine from the maintenance records which “CHIP” detector caused the “CHIP” detector light to illuminate, or if the chip detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, you are required to replace the module with an airworthy module before further flight. You are also required, before further flight, to inspect the MGB module magnetic “CHIP” detector electrical circuit and determine whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel. This condition, if not corrected, could result in failure of the MGB and loss of control of the helicopter.

Since issuing that AD, we have determined the AD should also apply to the Model AS332L2 helicopters. We have also determined that we incorrectly described a part as “magnetic plug”, and the correct nomenclature is “chip detector.” Finally, we have determined that modifying the chip collector and inspecting the chip detector should be required to enhance the early detection capability of the chip detectors of the gearbox sump and the epicyclic module.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Emergency AD No. 2009-0099-E, dated April 23, 2009 (EAD No. 2009-0099-E), which supersedes AD No.

2009-0087-E, dated April 11, 2009 and AD No. 2009-0095-E, dated April 17, 2009, to correct an unsafe condition for the Eurocopter Model AS332L2 and EC225LP helicopters. EASA advises that early investigations showed that a failure within the epicyclic reduction gear module of the MGB resulted in the rupture of the MGB case, which allowed the main rotor head to separate from the helicopter.

#### **FAA's Determination**

These helicopters have been approved by the aviation authority of France and are approved for operation in the United States. Pursuant to our bilateral agreement with France, EASA, their technical representative, has notified us of the unsafe condition described in the EASA AD. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other helicopters of these same type designs.

#### **Related Service Information**

Eurocopter has issued two Emergency Alert Service Bulletins (EASBs) with four numbers: No. 05.00.81 for FAA type-certificated Model AS332L2 helicopters; No. 05.00.58 for non-FAA type-certificated military Model AS532A2 and U2 helicopters; No. 05A016 for non-FAA type-certificated military Model EC725AP helicopters; and No. 05A017 for FAA type-certificated Model EC225LP helicopters. Both EASBs are Revision 2, and are dated April 23, 2009. The EASBs specify checking the chip detector on the MGB epicyclic module, modifying the main module chip collector, reidentifying the chip collector, and installing the chip collector (MOD 0752522). EASA classified these EASBs, or later approved versions, as mandatory and issued EAD No. 2009-0099-E to ensure continued airworthiness of these helicopters.

## **AD Requirements**

This AD requires:

- Determining from the maintenance records whether, within the last 200 hours time-in-service (TIS), the “CHIP” detector light illuminated because of a metal particle on the chip detector of the module, and if so, whether the “CHIP” detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting to activate the “fuzz burn-off” feature.
- If the maintenance records indicate that the “CHIP” detector light illuminated because of a metal particle on the chip detector of the module, and the “CHIP” detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight.
- If the maintenance records do not indicate which “CHIP” detector caused the “CHIP” detector light to illuminate, or whether the detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight.
- Inspecting the MGB module magnetic chip detector electrical circuit and determining whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel (Vehicle Monitoring System Screen).
- Thereafter, if the “CHIP” detector light illuminates, stays illuminated after the “CHIP” detector switch is turned to the “CHIP PULSE” setting, and there is a metal particle on the epicyclic module chip detector, (rather than the main reduction gear (lower MGB), the flared housing (mast assembly), the intermediate gearbox, or the tail rotor gearbox chip detectors) that caused the “CHIP” detector light to illuminate, replace the

module with an airworthy module.

- Unless accomplished previously, within 50 hours TIS, remove, modify, reidentify, and reinstall the chip collector.
- Before installing a MGB on any Eurocopter Model AS332L2 or EC225LP helicopter, modify, reidentify, and reinstall the chip collector in accordance with paragraph (f)(3) of this AD.

### **Differences between this AD and the EASA AD**

The differences between this AD and the EASA AD are:

- We use the term “hours time-in-service” rather than “flight hours” to describe compliance times.
- We use the term “chip detector” rather than “magnetic plug” to refer to the same part.
- If it is determined that within the past 200 hours TIS a “CHIP” light was caused by a particle in the module, we require replacing the module with an airworthy module rather than inspecting it and returning the same module to service.
- We do not mandate a calendar time for complying with this AD.
- The EASA AD specifies, for Eurocopter Model AS332L2 helicopters, checking the chip detector of the module after the last flight of the day, not to exceed 10 hours TIS, and for the Model EC225LP helicopters, complying with the maintenance manual each time a particle is detected. This AD requires treating both models the same, since both models have the same type of chip detectors and anticipate compliance with “normal” maintenance procedures each time a particle is detected after accomplishing paragraph (f)(3) of this AD.

- We do not require returning unairworthy parts or found particles to the manufacturer.

### **Costs of Compliance**

We estimate that this AD will affect 4 helicopters of U.S. registry. We estimate that it will take about 1.0 work hour to inspect maintenance records to determine if a “CHIP” light illuminated within the past 200 hours TIS; 10 work-hours to remove, inspect, and replace a module; 14 work-hours to remove, modify, and replace the module to incorporate the “CHIP” collector and flange modifications (MOD 0752522); and 0.2 work-hour, per inspection, to conduct the initial and repetitive inspection of the chip detector for metal particles. The average labor rate is \$85 per work-hour, and we estimate it will cost \$85 to inspect the maintenance records; \$850 to remove, inspect, and replace a module; \$1,190 to incorporate MOD 0752522; and \$408 to inspect the chip detector (assumes 24 inspections per year per helicopter), for an estimated total labor cost of \$2,533 per helicopter. Required parts cost is approximately \$512,318 to replace a module. Based on these figures, we estimate the cost of this AD on U.S. operators is \$522,450, assuming all required inspections and modifications are completed on all helicopters and 1 helicopter requires a module replacement

### **FAA’s Justification and Determination of the Effective Date**

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect both the structural integrity and controllability of the helicopter. Therefore, because the determination of the “CHIP” light illumination, inspection, and replacement of the module (on condition) are required before further flight, this AD must be issued immediately.



Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in less than 30 days.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

2012-01-03 **EUROCOPTER FRANCE:** Amendment No. 39-16914; Docket No. FAA-2012-0005; Directorate Identifier 2010-SW-091-AD.

(a) **Applicability.** This AD applies to Model AS332L2 and EC225LP helicopters, certificated in any category.

(b) **Unsafe Condition.** This AD defines the unsafe condition as degradation of the

epicyclic reduction gear module within the main gearbox (MGB). This condition could result in failure of the MGB and subsequent loss of control of the helicopter.

(c) **Other Affected ADs.** This AD supersedes AD 2009-09-51, Amendment 39-16101, Docket No. FAA-2009-1089, Directorate Identifier 2009-SW-16-AD, (74 FR 65679, Dec. 11, 2009).

(d) **Effective Date.** This airworthiness directive (AD) becomes effective [insert date 15 days after date of publication in the FEDERAL REGISTER].

(e) **Compliance.** You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) **Required Actions.** To prevent failure of the main gearbox (MGB) and loss of control of the helicopter:

(1) Before further flight:

(i) Determine from the maintenance records whether, within the last 200 hours time-in-service (TIS), the “CHIP” detector light illuminated because of a metal particle on the chip detector of the MGB epicyclic module (module), and if so, whether the “CHIP” detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting to activate the “fuzz burn-off” feature.

(A) If the maintenance records indicate that the “CHIP” detector light illuminated because of a metal particle on the chip detector of the module, and the “CHIP” detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight.

(B) If the maintenance records do not indicate which “CHIP” detector caused the

“CHIP” detector light to illuminate, or whether the detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight.

(ii) Inspect the module magnetic chip detector electrical circuit and determine whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel (Vehicle Monitoring System Screen).

(2) After accomplishing paragraph (f)(1) of this AD, thereafter, if the “CHIP” detector light illuminates, stays illuminated after the chip detector switch is turned to the “CHIP PULSE” setting, and there is a metal particle on the module magnetic chip detector (rather than the main reduction gear (lower MGB), the flared housing (mast assembly), the intermediate gearbox, or the tail rotor gearbox chip detectors) that caused the “CHIP” detector light to illuminate, replace the module with an airworthy module.

(3) Within 50 hours TIS, remove, modify, reidentify, and reinstall the chip collector as shown in Figures 2 through 5, and in accordance with the Accomplishment Instructions, paragraph 2.B.3.b.1) through 2.B.3.b.5) of Eurocopter Emergency Alert Service Bulletin (EASB) No. 05.00.81, Revision 2, dated April 23, 2009, or Eurocopter EASB No. 05A017, Revision 2, dated April 23, 2009, for your model helicopter.

(4) Before installing a MGB, modify, reidentify, and reinstall the chip collector in accordance with paragraph (f)(3) of this AD.

Note 1 to paragraph (f) of this AD: Eurocopter has issued two EASBs with four different numbers (Nos. 05.00.81, 05.00.58, 05A017, and 05A016) that apply to 5 different Eurocopter model helicopters. EASB No. 05.00.58 is for Eurocopter military Model AS532A2, and U2 helicopters, and EASB No. 05A016 is for Eurocopter military

Model EC725AP helicopters that are non-FAA type-certificated. EASB No. 05.00.81 is for FAA type-certificated Eurocopter Model AS332L2 helicopters and EASB No. 05A017 is for FAA type-certificated Eurocopter Model EC225LP helicopters. This AD does not incorporate by reference EASB Nos. 05A016 or 05.00.58.

**(g) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Rao Edupuganti, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-4389; fax: (817) 222-5961, e-mail [rao.edupaganti@faa.gov](mailto:rao.edupaganti@faa.gov).

(2) For operations conducted under a Part 119 operating certificate or under Part 91, Subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

**(h) Additional Information.** The subject of this AD is addressed in European Aviation Safety Agency AD No. 2009-0099-E, dated April 23, 2009.

**(i) Subject.** JASC Code: 6300: Rotor Drive System.

**(j) Material Incorporated by Reference.** You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) of the following service information under 5 U.S.C. 552(a) and 1 CFR part 51:

(1) Eurocopter Emergency Alert Service Bulletin No. 05.00.81, Revision 2, dated April 23, 2009, for the model AS332L2; and

(2) Eurocopter Emergency Alert Service Bulletin No. 05A017, Revision 2, dated April 23, 2009, for the model EC225LP helicopters.

(3) For service information identified in this AD, contact American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, Texas 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at <http://www.eurocopter.com/techpub>.

(4) You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth Texas 76137 or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html)

Issued in Fort Worth, Texas, on December 28, 2011.

M. Monica Merritt,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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